

REMARKS/ARGUMENTS

GENERAL

Applicant extends its gratitude to the Office for the Interview of April 14, 2011.

As discussed in the interview, a device in accordance with the instant claims includes a plurality of different types of pressing members, including 1st, 2nd, 3rd and 4th types of pressing members. Exemplary embodiments of the pressing members and tips therefor are shown and described at paragraph [0050] and FIGS. 5A – 5B and 6 of the published application. As noted in the Interview, 3rd and 4th types of pressing members 23A and 24A include movable claw sections. As described at paragraph [0050], “[e]ach of the movable claw sections 26 has a fixing section 26a and a movable section 26b. The fixing sections 26a are fixed to the step sections 23c and 24c, and the movable sections 26b are movably supported on the tips 23a and 24a. Furthermore, a compression spring 26c is provided between the fixing section 26a and the movable section 26b. The movable sections 26b are pushed by the compression spring 26c toward the tips 23a, 24a, and are supported by the fixing sections 26a in the state where the movable sections 26b extend each by a prespecified length from the tips 23a, 24a. Furthermore, edge faces of the fixing section 26a and the movable section 26b facing against the tips 23a, 24a respectively are machined to tapered faces 26d.” (Emphasis added).

Hence, “[i]n the initial state, as shown in FIG. 1, the push rod 6 is raised upward by the compression spring 6b, and also the arm section 31 of the rotational body 3 engaged with the push rod 6 is upraised. Moreover, the pressing members 2 (21, 22, 23, 24) are at positions where the tips 21a, 22a, 23a, and 24a are retracted from the central axis O because of a form of the cam holes 32 of the rotational body 3 in which the cam followers are engaged respectively as described below in detail. In other words, as shown in FIG. 8, the tips 21a, 22a of the first pressing member 21 and the second pressing member 22 are further retracted from the central axis O as compared to the tips 23a, 24a of the third pressing member 23 and the fourth pressing member 24. To describe in further detail, when the pressing members 2 are retracted, positions of the tips 23a and 24a of the third pressing members 23 and the fourth pressing member 24 each as particular pressing members are on a reference circle around the central axis O, and positions of the tips 21a, 22a of the first pressing member 21 and the second pressing member 22 as other pressing members are off outward from the

reference circle. This reference circle corresponds to an external periphery of the ring R around the central axis O.” (Emphasis added).

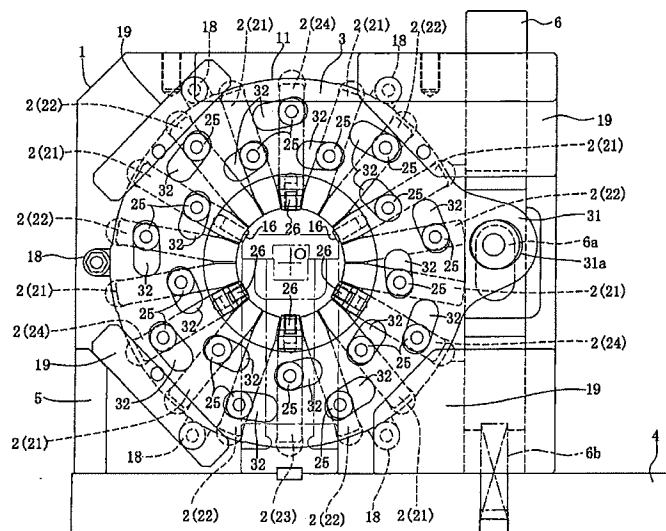


FIG.1

CLAIM REJECTIONS UNDER 35 USC § 103

Claims 9 - 16 stand rejected under 35 U.S.C. § 103(a) as being obvious in view of Owens (US 5,715,723) and Boyd. Applicant respectfully traverses the rejection.

Independent Claim 9

Claim 9 recites, in part, “a hooking mechanism that hooks the ring, the hooking mechanism having [1.] a claw member abutting on an edge face on one side of the ring on the side of the substrate and also having [2.] a movable claw member abutting on an edge face on the other side of the ring on the tip side of the specific pressing member.” (Emphasis added).

As described in the Abstract of the disclosure, the ring compression device includes hooking units (16, 26) for hooking the ring on the tips. An exemplary embodiment of the hooking unit/mechanism is best described by reference to FIGS. 1, 2 and 9 and paragraph [0061] of the published application (See above and below). As described at paragraph [0061] of the published application, when a ring is inserted into an area surrounded by the tips 21a, 22a, 23a, and 24a of the pressing members 2 (21, 22, 23, and 24) (See FIG. 1)) from the front side of the device (See FIG.

9), the ring R overrides and retracts the movable sections 26b of the movable claw sections 26 provided in the third pressing member 23 and the fourth pressing member 24 and contact the claw members 16. Then movable section 26b is restored to the original form by the compression spring 26c, and the ring R is hooked at the tips 23a, 24a arranged in the circular form between the movable sections 26b and the claw members 16. As a result, the ring R is mounted at the positions of the tips 23a, 24a of the third pressing member 23 and the fourth pressing member 24.

FIG.2

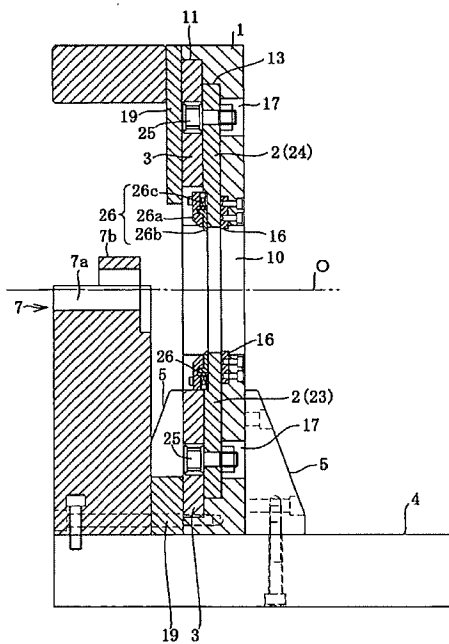
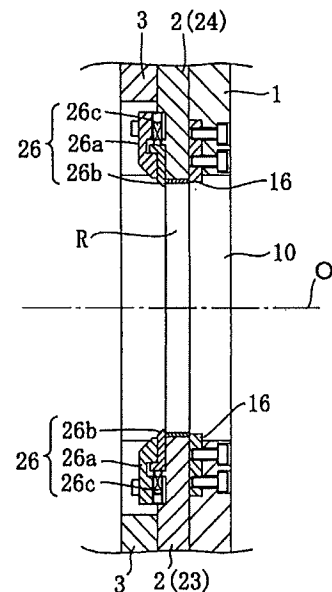


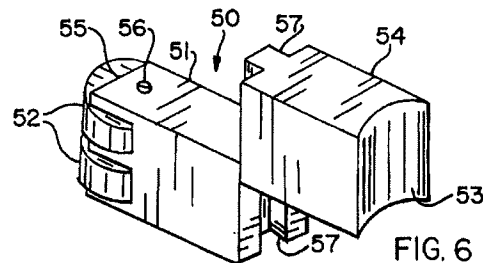
FIG.9



In sum, as shown in FIG. 9, the hooking mechanism includes static claw members 16 and movable claw sections 26(b). Static claw members 16 are configured to receive and abut a first edge of ring R on the side of the substrate 1 and movable claw sections are configured to retract and abut a second edge of the ring R. It should be further appreciated that an edge of a ring is readily distinguishable from a face of a ring and would be so recognized by an ordinarily skilled artisan.

Thus, contrary to the assertions contained in the Office Action, the combination of Owens and Boyd fails to describe or suggest a similar hooking unit/mechanism. Along this line, while the Office Action asserts that, Owens describes “a movable claw member abutting an edge face of the ring on each pressing member (Col. 3, lines 65 – 66; FIG. 2; FIG. 3 Item 53 discusses a tooth end

which can be considered a claw),” Applicant respectfully submits that such assertions are wholly unsupported. That is, FIG. 6 of Owens, shown below, describes and illustrates a “crimping die comprising a main body, die rollers 52 and a tooth end 53.” (Col. 3, lines 65 - 66).



As described at Col. 4, lines 46 – 50 of Owens, “[t]he tooth ends 53 of the crimping dies contact and deform the outer sleeve 93 of fitting 92 against the hose 91 and the inner sleeve 94, thereby securely attaching the fitting 92 to the hose 91, as shown in FIG. 4.”

Consequently, the tooth 53 of Owens does not contact and abut the edges of fitting 92, but rather contacts and abuts the outer face of fitting 92 so as to “deform the outer sleeve 93 of fitting 92 against the hose 91 and the inner sleeve 94, thereby securely attaching the fitting 92 to the hose 91, as shown in FIG. 4.” Consequently, Owens does not describe or suggest a “hooking mechanism having a claw member abutting on an edge face on one side of the ring on the side of the substrate and also having a movable claw member abutting on an edge face on the other side of the ring on the tip side of the specific pressing member,” as recited in claim 9.

Additionally, while the Office Action asserts that, “it is shown a movable claw member abutting on an edge face on the other sided of the ring on the tip side of the specific pressing member since each pressing member is movable and has a claw and will be opposed any type of hooking member that would be on the side of the substrate,” as previously submitted, the teeth 53 of Owens do not abut an edge of a ring, but rather contact and abut an outer face of fitting 92. Additionally, while Owens describes a plurality of separate teeth disposed on opposite faces of a fitting about a circumference thereof, each separate tooth acts on an opposite outer face of the fitting 92 and Owens does not describe or suggest a “hooking mechanism having a claw member abutting on an edge face on one side of the ring on the side of the substrate and also having a movable claw

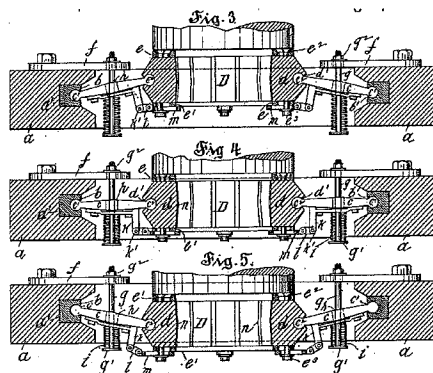
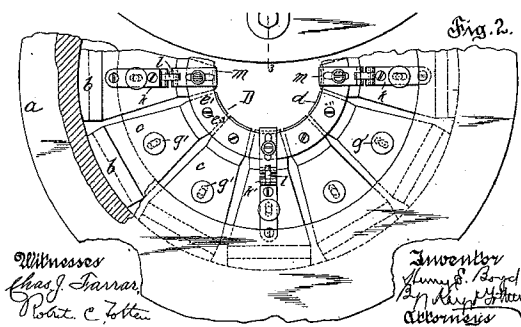
member abutting on an edge face on the other side of the ring on the tip side of the specific pressing member,” as recited in claim 9.

Finally, it should also be appreciated that the term “substrate,” does not refer to a substrate of the ring, but rather refers to, for example, a substrate 1 of the ring compression device as shown in FIG. 4. Consequently, Owens does not describe a claw member abutting on an edge face on one side of the ring on the side of the substrate and also having a movable claw member abutting on an edge face on the other side of the ring.

In view of the above, contrary to the assertions contained in the Office Action, Owens fails to describe or suggest “a hooking mechanism that hooks the ring, the hooking mechanism having [1.] a claw member abutting on an edge face on one side of the ring on the side of the substrate and also having [2.] a movable claw member abutting on an edge face on the other side of the ring on the tip side of the specific pressing member.” (Emphasis added).

Similar to Owens, Boyd fails to describe or suggest “a hooking mechanism that hooks the ring, the hooking mechanism having [1.] a claw member abutting on an edge face on one side of the ring on the side of the substrate and also having [2.] a movable claw member abutting on an edge face on the other side of the ring on the tip side of the specific pressing member.” (Emphasis added).

As shown in FIGS. 2 and 3 of Boyd below, Boyd describes supports *m*, “arranged at suitable intervals around the inner periphery of the ring *D* and being adapted to support the coupling when placed in position to be compressed. Accordingly, said supports *m*, project, normally, slightly beyond the inner faces of the segmental blocks *d*.” (Page 1, Col. 2, lines 83 – 89).



As shown in FIGS. 2 and 3 of Boyd, supports *m* of Boyd are configured to receive and support a single edge of an article that is to be worked on. As shown in FIG. 3 of Boyd, at an initial stage, supports *m* are disposed inward to support a pipe that is to be worked on, and, at a final stage, supports *m* are disposed outward to release the pipe that has been worked on by, for example, the force of gravity. Hence, Boyd does not describe or suggest “a claw member abutting on an edge face on one side of the ring on the side of the substrate and a movable claw member abutting on an edge face on the other side of the ring on the tip side of the specific pressing member.”

In view of the above, Applicant respectfully submits that the combination of Owens and Boyd fails to fairly describe each and every element of claim 9, as arranged to support a rejection under 35 USC §103. Additionally, upon considering the references as a whole for what they fairly teach and suggest to a skilled artisan, absent impermissible reference to Applicant's disclosure, a skilled artisan would not have been motivated to combine/modify the specific teachings of the references in the specific manner of the applicant to arrive at the invention of claim 9.

The rejection of claim 9 and those claims depending therefrom should be withdrawn.

Dependent Claim 10

Applicant has previously discussed the teachings of Owens and Boyd.

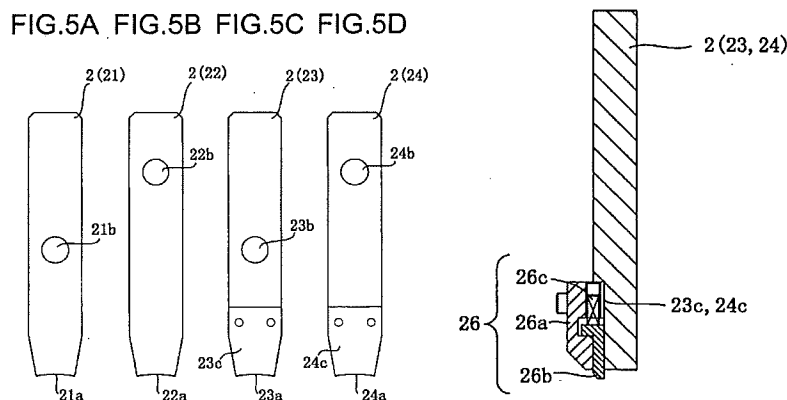
Claim 10 includes the limitation:

wherein the rotating body has an initial position at which the one end of at least one of the pressing members is located on a circle around the central axis that corresponds to the periphery of the ring and the one end of each of the other pressing members is located outside of the circle, and

the driving mechanism engages with the rotating body and the pressing members such that, when the rotating body rotates, the one end of each of the other pressing members moves toward the circle, and once the one end of each of the other pressing members is located on the circle, all the pressing members move towards the central axis.

As discussed in “GENERAL” above, a device in accordance with the claim 10 includes a plurality of different types of pressing members, including 1st, 2nd, 3rd and 4th types of pressing members. Exemplary embodiments of the pressing members and tips therefor are shown and described at paragraph [0050] and FIGS. 5A – 5B and 6 of the published application below.

FIG.6



As noted in the Interview, 3rd and 4th types of pressing members 23 and 24 include movable claw sections. As described at paragraph [0050], “[e]ach of the movable claw sections 26 has a fixing section 26a and a movable section 26b. The fixing sections 26a are fixed to the step sections 23c and 24c, and the movable sections 26b are movably supported on the tips 23a and 24a. Furthermore, a compression spring 26c is provided between the fixing section 26a and the movable section 26b. The movable sections 26b are pushed by the compression spring 26c toward the tips 23a, 24a, and are supported by the fixing sections 26a in the state where the movable sections 26b extend each by a prespecified length from the tips 23a, 24a. Furthermore, edge faces of the fixing section 26a and the movable section 26b facing against the tips 23a, 24a respectively are machined to tapered faces 26d.” (Emphasis added).

Hence, “[i]n the initial state, as shown in FIG. 1, the push rod 6 is raised upward by the compression spring 6b, and also the arm section 31 of the rotational body 3 engaged with the push rod 6 is upraised. Moreover, the pressing members 2 (21, 22, 23, 24) are at positions where the tips 21a, 22a, 23a, and 24a are retracted from the central axis O because of a form of the cam holes 32 of the rotational body 3 in which the cam followers are engaged respectively as described below in detail. In other words, as shown in FIG. 8, the tips 21a, 22a of the first pressing member 21 and the second pressing member 22 are further retracted from the central axis O as compared to the tips 23a, 24a of the third pressing member 23 and the fourth pressing member 24. To describe in further detail, when the pressing members 2 are retracted, positions of the tips 23a and 24a of the third

pressing members 23 and the fourth pressing member 24 each as particular pressing members are on a reference circle around the central axis O, and positions of the tips 21a, 22a of the first pressing member 21 and the second pressing member 22 as other pressing members are off outward from the reference circle. This reference circle corresponds to an external periphery of the ring R around the central axis O.” (Emphasis added).

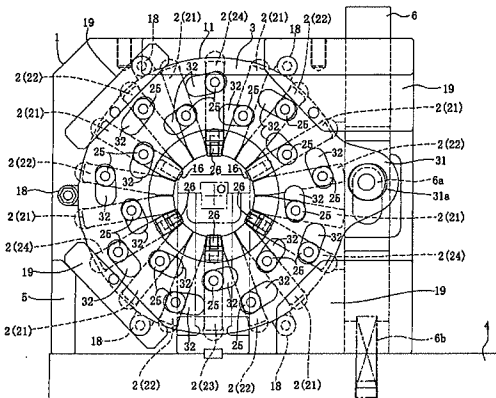


FIG. 1

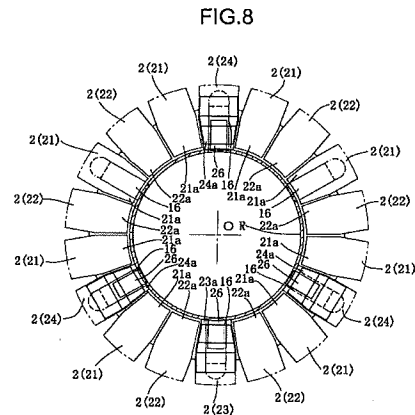


FIG. 8

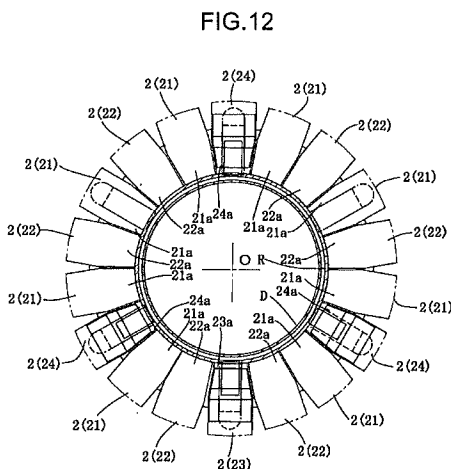


FIG. 12

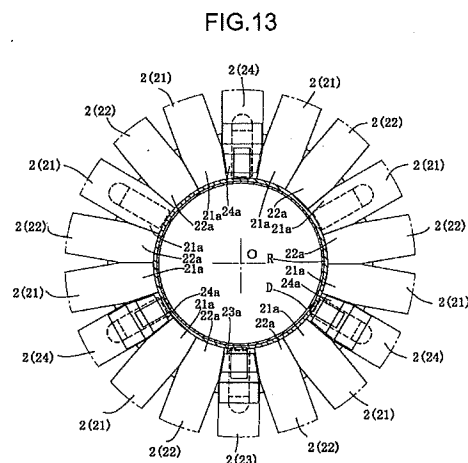


FIG. 13

Finally, as described at paragraphs [0065] - [0067] of the published application:

[0065] When the ring R is compressed, the pressing members 2 (21, 22, 23, 24) move as described below. Namely, when the rotational body 3 starts rotation from the default state, only the tips 21a, 22a of the first pressing member 21 and the second pressing member 22 at positions off outward from the reference circuit as shown in FIG. 12 move forward toward the central axis O because of forms of the

cam holes 32 on the rotational body 3 in which the cam followers 25 of the first pressing member 21 and the second pressing member 22 are engaged. The first pressing member 21 and the second pressing member 22 move until the tips 21a, 22a reach the reference circuit on which the tips 23a, 24a of the third pressing member 23 and the fourth pressing member 24 are present.

[0066] When the tips 21a, 22a, 23a, and 24a of all pressing members 2 (21, 22, 23, 24) are positioned on the reference circuit, if the ring R is deformed when set as described above, the deformation of the ring R is corrected by the tips 21a, 22a of the first pressing member 21 and the second pressing member 22 having moved thereto to the perfect circle.

[0067] When the rotational body 3 further rotates from the state shown in FIG. 12, the tips 21a, 22a, 23a, and 24a of all pressing members 2 (21, 22, 23, 24) move forward toward the central axis O because of the shapes of the cam holes 32 of the rotational body 3 in which the cam followers 25 are engaged as shown in FIG. 13. Because of this configuration, force is applied on the ring R by the tips 21a, 22a, 23a, and 24a by applying a force from the outside of the ring R, and the ring R is compressed. In this case, the force applied to the ring R is homogeneous around the central axis O, so that the uniformly compressed ring R is mounted on the mounting body D previously set and held around the central axis O. (Emphasis added).

None of Owens nor Boyd describe or suggest pressing members having different tips and neither describe or suggest tips that have different movement based on their positional relationship relative to the circle. That is, none of Owens or Boyd teach or suggest that, “the one end of at least one of the pressing members is located on a circle around the central axis that corresponds to the periphery of the ring and the one end of each of the other pressing members is located outside of the circle, and the driving mechanism engages with the rotating body and the pressing members such that, when the rotating body rotates, the one end of each of the other pressing members moves toward the circle, and once the one end of each of the other pressing members is located on the circle, all the pressing members move towards the central axis.”

Accordingly, the combination of Owens and Boyd fails to describe each and every element of claim 10, as those elements are arranged in the claims to support a rejection under 35 USC § 103.

The rejection should be withdrawn.

Dependent claims 11 - 16

Dependent claims 11 – 16 either include the limitations of nonobvious claim 9 and/or include limitations that are similar to nonobvious claim 10. Hence, by virtue of their dependency therefrom and/or in view of the fact that they include limitations not otherwise described or suggest by the combination of Owens and Boyd, such claims are also nonobvious.

The rejections should be withdrawn.

Conclusion

In view of the above, Applicant respectfully submits that the instant application is in condition for allowance, which action is courteously requested.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1105.

Dated: April 25, 2011
Customer No.: 21874

Respectfully submitted,



Electronic signature: /S. Peter Konzel/
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